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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,838	12/19/2001	Satyabrata Raychaudhuri	SBE-78886	5466

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EXAMINER

O MALLEY, KATHRYN S

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/024,838

Applicant(s)

RAYCHAUDHURI ET AL. 

Examiner

Kathryn S. O'Malley

Art Unit

3749

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 5, 6, 9, 13, 15, 16, 19, 20, 22, 24, 25, 28, 29, and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Biallas et al. (US Patent 5,888,592).

3. Biallas et al. teaches a curing apparatus, method of its use, and product formed comprising supporting structure 6 for transferring a coating sample 7 to sequentially expose the samples to curing by infrared emitters 3 and gas nozzles 13 configured to generate a predetermined heat pattern at selected positions and for a selected duration of time. Note column 3, line 50- column 4, line 25 and Figures 1 and 2.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 4, 8, 10, 11, 18, 21, 23, 27, and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biallas et al. as applied to claims 1 and 19 above.

6. While Biallas et al. does not teach the ranges presently claimed, such ranges would have been obvious to one of ordinary skill in the art since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

7. Claims 7, 17, 26, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biallas et al. as applied to claims 1 and 19 above, and further in view of Pikus (US Patent 6,125,549).

8. Biallas et al. does not teach providing steam along with heated gas. Pikus teaches a similar drying method and apparatus utilizing a combination of infrared, gas, and steam emitters. Note column 3, lines 35-49; column 6, lines 13-16; and Figure 1. As Pikus teaches that the addition of steam to a drying method and apparatus enhances heat transfer to material that is being dried, it would have been obvious to one of ordinary skill in the art to modify the apparatus and method of Biallas et al. with the steam emitters of Pikus.

9. Claims 14, 30, 31, 37, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Biallas et al. as applied to claims 1 and 19 above, and further in view of Chen et al. (US Patent 5,856,018).

10. Biallas et al. does not teach treating specific substrate materials or repeating the curing process to form multi-layered anti-reflection coating. Chen et al. teaches a similar process for curing comprising treating polymethyl methacrylate with sequential curing treatments to result in a multi-layered coating. Note column 2, lines 6-14. As

Chen et al. teaches that a multi-layered coating formed from multiple curing steps results in enhanced brightness and contrast while reducing expense and susceptibility to damage, it would have been obvious to one of ordinary skill in the art to modify the curing method and apparatus of Biallas et al. with the multiple curing steps of Chen et al.

11. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Biallas et al. as applied to claim 1 above, and further in view of Tate (US Patent 5,319,861).

12. Biallas et al. does not teach two infrared lamps placed opposite each other. Tate teaches a similar coating apparatus comprising infrared lamps 16 placed on opposite sides of each other to direct radiation at coated workpieces 100. Note column 10, lines 30-34 and Figures 18 and 19. As Tate teaches that infrared lamps on both sides of a workpiece will result in more uniform curing, it would have been obvious to one of ordinary skill in the art to modify the curing apparatus and method of Biallas et al. with the opposite-facing infrared lamps of Tate.

### ***Conclusion***


13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Wang et al. and Kirkbir et al. teach similar curing methods and apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathryn S. O'Malley whose telephone number is (703)308-2844. The examiner can normally be reached on M-F (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ira Lazarus can be reached on (703)308-1935. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KSO

  
Ira Lazarus  
Supervisory Patent Examiner  
Group 5700